

Practitioner's Docket No. STL9663

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Ying EE Yip

Application No.: 09/851,767

Group No.: 2651

Filed: 05/09/2001

Examiner: Rodriguez, Glenda P.

For: Pattern-Based Defect Description Method

Mail Stop Appeal Briefs - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION--37 C.F.R. § 1.192)

1. Transmitted herewith, in triplicate, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on March 10, 2004.

2. STATUS OF APPLICANT

This application is on behalf of other than a small entity.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 1.17(c), the fee for filing the Appeal Brief is:

other than a small entity \$330.00

Appeal Brief fee due \$330.00

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal brief fee \$330.00

Extension fee (if any) \$0.00

05/21/2004 SMOORE 00000001 191038 09851767

TOTAL FEE DUE \$330.00

330.00 DA

Transmittal of Appeal Brief--page 1 of 2

6. FEE PAYMENT

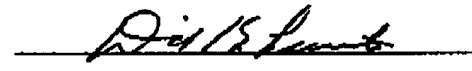
Authorization is hereby made to charge the amount of \$330.00 to Deposit Account No. 19-1038.

A duplicate of this transmittal is attached.

7. FEE DEFICIENCY

If any additional extension and/or fee is required, charge Deposit Account No. 19-1038.

Date: 5/10/04


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720-684-2295

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MAY 10 2004

PTO/SB/21 (02-04)

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| | | | |
|-------------------------------------------------------------------------------------|----------------------|------------------------|---------|
| TRANSMITTAL FORM (to be used for all correspondence after initial filing) | Application Number | 09/851,767 | |
| | Filing Date | May 9, 2001 | |
| | First Named Inventor | Ying EE Yip | |
| | Art Unit | 2651 | |
| | Examiner Name | Rodriguez, Glenda P. | |
| Total Number of Pages in This Submission | 28 | Attorney Docket Number | STL9663 |

| ENCLOSURES (Check all that apply) | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Transmittal of Appeal Brief |
| Remarks | | |

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

| | |
|-------------------------|-------------------------------------------------------------|
| Firm or Individual name | David K. Lucente, Reg. No. 36,202 Seagate Technology LLC |
| Signature | <i>David K. Lucente</i> |
| Date | 5/10/04 |

CERTIFICATE OF TRANSMISSION/MAILING

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------|------------|
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| Typed or printed name | <i>David K. Lucente</i> | | |
| Signature | <i>David K. Lucente</i> | Date | 05/10/2004 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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FEE TRANSMITTAL

for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27TOTAL AMOUNT OF PAYMENT (\$)**330.00****Complete if Known**

| | |
|----------------------|----------------------|
| Application Number | 09/851,767 |
| Filing Date | May 9, 2001 |
| First Named Inventor | Ying EE Yip |
| Examiner Name | Rodriguez, Glenda P. |
| Art Unit | 2651 |
| Attorney Docket No. | STL9663 |

METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit
Account
Number
Deposit
Account
Name

19-1038

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Credit any overpayments☐ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Small Entity

| Fee Code | Fee (\$) | Fee Description | Fee Paid |
|--------------------------|----------|------------------------|----------|
| 1001 770 | 2001 385 | Utility filing fee | |
| 1002 340 | 2002 170 | Design filing fee | |
| 1003 530 | 2003 265 | Plant filing fee | |
| 1004 770 | 2004 385 | Reissue filing fee | |
| 1005 180 | 2005 80 | Provisional filing fee | |
| SUBTOTAL (1) (\$) | | | |

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

| Total Claims | Extra Claims | Fee from below | Fee Paid |
|--------------------|--------------|----------------|----------|
| Independent Claims | -20** = | X | |
| Multiple Dependent | -3** = | X | |

| Large Entity Fee Code (\$) | Small Entity Fee Code (\$) | Fee Description | Fee Paid |
|----------------------------|----------------------------|------------------------------------------------------------|----------|
| 1202 18 | 2202 9 | Claims in excess of 20 | |
| 1201 88 | 2201 43 | Independent claims in excess of 3 | |
| 1203 290 | 2203 145 | Multiple dependent claim, if not paid | |
| 1204 88 | 2204 43 | ** Reissue independent claims over original patent | |
| 1205 18 | 2205 9 | ** Reissue claims in excess of 20 and over original patent | |
| SUBTOTAL (2) (\$) | | | |

**or number previously paid, if greater. For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

| Fee Code | Fee (\$) | Fee Code | Fee (\$) | Fee Description | Fee Paid |
|------------|------------|----------|----------|----------------------------------------------------------------------------|----------|
| 1051 130 | 2051 65 | | | Surcharge - late filing fee or oath | |
| 1052 50 | 2052 25 | | | Surcharge - late provisional filing fee or cover sheet | |
| 1053 130 | 1053 130 | | | Non-English specification | |
| 1812 2,520 | 1812 2,520 | | | For filing a request for ex parte reexamination | |
| 1804 920 | 1804 920 | | | Requesting publication of SIR prior to Examiner action | |
| 1805 1,840 | 1805 1,840 | | | Requesting publication of SIR after Examiner action | |
| 1251 110 | 2251 55 | | | Extension for reply within first month | |
| 1252 420 | 2252 210 | | | Extension for reply within second month | |
| 1253 950 | 2253 475 | | | Extension for reply within third month | |
| 1254 1,480 | 2254 740 | | | Extension for reply within fourth month | |
| 1255 2,010 | 2255 1,005 | | | Extension for reply within fifth month | |
| 1401 330 | 2401 165 | | | Notice of Appeal | |
| 1402 330 | 2402 165 | | | Filing brief in support of an appeal | 330.00 |
| 1403 290 | 2403 145 | | | Request for oral hearing | |
| 1451 1,510 | 1451 1,510 | | | Petition to Institute a public use proceeding | |
| 1452 110 | 2452 55 | | | Petition to revive - unavoidable | |
| 1453 1,330 | 2453 665 | | | Petition to revive - unintentional | |
| 1501 1,330 | 2501 665 | | | Utility issue fee (or reissue) | |
| 1502 480 | 2502 240 | | | Design issue fee | |
| 1503 640 | 2503 320 | | | Plant issue fee | |
| 1460 130 | 1460 130 | | | Petitions to the Commissioner | |
| 1807 50 | 1807 50 | | | Processing fee under 37 CFR 1.17(q) | |
| 1806 180 | 1806 180 | | | Submission of Information Disclosure Stmt | |
| 8021 40 | 8021 40 | | | Recording each patent assignment per property (times number of properties) | |
| 1809 770 | 2809 385 | | | Filing a submission after final rejection (37 CFR 1.129(a)) | |
| 1810 770 | 2810 385 | | | For each additional invention to be examined (37 CFR 1.129(b)) | |
| 1801 770 | 2801 385 | | | Request for Continued Examination (RCE) | |
| 1802 900 | 1802 900 | | | Request for expedited examination of a design application | |

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 330.00**SUBMITTED BY**

Name (Print/Type) David K. Lucente

Signature

Registration No.
(Attorney/Agent)

36,202

(Complete if applicable)

Telephone 720-684-2295

Date

May 10, 2004

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|--------------|-----------------------------------------|-----------------|----------------------|
| Inventor(s): | Yip et al. | | |
| Serial No.: | 09/851,767 | Examiner: | Rodriguez, Glenda P. |
| Filed: | 05/09/2001 | Group Art Unit: | 2651 |
| Title: | Pattern-Based Defect Description Method | | |
| Docket: | STL9663 | | |

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APPEAL BRIEF

This appeal is filed in response to the final Office action mailed December 10, 2003 and the Advisory Action mailed February 25, 2004.

(1) Real party in interest

The real party in interest is Seagate Technology LLC.

(2) Related appeals and interferences

There are no related appeals or interferences.

(3) Status of Claims

As indicated in the Advisory Action, upon filing this appeal the status of the claims will be:

Claims 1-6 and 9-12 stand rejected and are hereby appealed.

Claims 7 and 8 are objected to.

(4) Status of Amendments after Final

An amendment after final was filed on or about February 10, 2004, to correct some mistranscriptions. The Advisory Action indicated that upon filing this appeal the amendment after final will not be entered.

(5) Summary of Invention

The present invention provides a method of describing defects that requires less memory space than conventional methods. At the end of certification process, defects captured are stored in a certification log which is referred to as a first defect table in this discussion. A conversion process is carried out to convert the certification log to a compressed defect table. The compressed defect table is referred to as a second defect table. This second defect table will be stored in the buffer and used by the firmware to skip over defects during operation. The conversion starts with sorting the entries of a first defect table according to the type of track layout, or zones. They are then grouped into clusters. Each cluster is characterized by a set of new parameters, including a starting sector, a scratch parameter, a span parameter, and an angle parameter. The new parameters are stored in a second table, replacing the corresponding entries in the first table. In this manner, a single entry in the second table replaces one or more entries in the first table. In particular, as defective sectors in different tracks may be represented by one single entry in the second table, the present method is more efficient in representing defects caused by scratches on the discs.

(6) Issues

The issue is as follows:

Whether claims 1-6 and 9-12 are unpatentable under 35 USC 103(a) as being obvious by Shimote et al. (USP 5212677) in view of Sliger (USP 5745313).

(7) Grouping of Claims

All the Claims are grouped together for purposes of this appeal.

(8) Argument

The rejection of claims 1-6 and 9-12 under 35 USC 103(a) as being unpatentable over Shimote et al. in view of Sliger is respectfully traversed. Claim 1 features selecting one sector from the cluster to be a reference sector; and (d) defining parameters with reference to the reference sector. Claim 9 features selecting one location from the cluster to be a reference location; and defining parameters with reference to the reference location.

The Final Office Action (Paper No. 7 mailed December 10, 2003) correctly notes that Shimote does not does not teach "selecting a reference sector from the cluster." Page 3, lines 8-

9 of the Final Office Action. Nowhere does Shimote suggest such a feature. Therefore, the Office Action relies on Sliger by stating the following at page 3, lines 9-12:

However, this feature is well known in the art as disclosed by Sliger wherein it teaches selecting a single entry in the BPB which to store information about each cluster. This is functionally equivalent to selecting a reference sector, it [sic] a single location/reference which to store parameters about the entire cluster. See col. 5, lines 13-51.

This reliance is incorrect. This statement that the “single entry in the BPB (BIOS Parameter Block) which to store information about each cluster” is “functionally equivalent” implies that the “single entry” is not the same as selecting one sector from the cluster to be a reference sector or location as claimed. This alone is a deficiency that defeats the contention of obviousness of claims 1 and 9.

Selecting a single entry in the BPB which to store information about each cluster is, in fact, not the same as selecting one sector from the cluster to be a reference sector or location as claimed. As claimed, the reference sector is selected from the sectors that make up the cluster. Sliger’s disclosure of selecting a single entry in the BPB which to store information about each cluster is not the same because the single entry in the BPB is not “from the cluster” as claimed. It’s just an entry in the BPB.

Without either reference teaching or suggesting, alone or in combination, selecting one sector from the cluster to be a reference sector or location as claimed, the claimed features of defining parameters with reference to the reference sector or location cannot be shown.

Accordingly, claims 1 and 9 are not obvious and are therefore allowable. Claims 2-6 and 10-12 are also allowable due to their respective dependence on allowable claims 1 and 9.

Further with respect to Claim 2, Applicants show that none of the cited references teach or suggest the claimed feature of “wherein the defining step (b) further comprises a step of including at least one non-defective sector in the cluster”. As can be seen, the feature recited in Claim 2 is a further refinement of step (b) recited in Claim 1. Thus, in essence Claim 2 recites “defining a cluster comprising at least one defective sector, and including at least one-defective sector in the cluster”. As can be seen, Claim 2 recites defining a cluster having both a defective and non-defective sector. In rejecting Claim 2, the Examiner cites Sliger Col. 5, lines 48-51. Applicants show that there, Sliger states:

"The remainder of the diskette contains a number of clusters. Each cluster contains an identical number of sectors, as defined in the BPB. Data to be stored on the disk is stored in the sectors that comprise these clusters."

As can be seen, this cited passage does *not* teach or suggest clusters comprising *both* a defective and non-defective sector, as expressly recited in Claim 2. Therefore, Claim 2 is further shown to not be obvious are there is at least one additional missing claimed element not taught or suggested by either cited reference.

Further with respect to Claim 5, Applicants show that none of the cited references teach or suggest the claimed feature of "wherein the defining step (d) further includes defining a scratch parameter characterizing the number of tracks covered by the cluster". In rejecting Claim 5, the Examiner states that Sliger teaches storing the number of *sectors per cluster* and *sectors per track*. Unfortunately, that is not what is being claimed in Claim 5, which expressly recites "tracks covered by a cluster". A teaching of sectors per cluster and sectors per track does not convey any information with respect to tracks covered by a cluster. For example, assume there are 256 sectors per cluster and 512 sectors per track. Knowing these two numbers does not convey or otherwise provide an ability to determine the number of tracks covered by a cluster. The Examiner has not alleged any such teaching or suggestion of this claimed feature in any cited reference, and has thus failed to establish a prima facie showing of obviousness with respect to Claim 5. Thus, the burden has not shifted to Applicants to rebut obviousness with respect to Claim 5.

Further with respect to Claim 6, Applicants show that none of the cited references teach or suggest the claimed feature of "wherein the defining step (d) further includes defining a span parameter characterizing the number of sectors covered by the cluster *along each track*". In rejecting Claim 6, the Examiner states that Sliger teaches storing the number of *sectors per cluster* and *sectors per track*. Applicants show that Claim 6 goes further, and expressly recites "the number of sectors covered by the cluster *along each track*". The Examiner has not alleged any such teaching or suggestion of this claimed feature in any cited reference, and has thus failed to establish a prima facie showing of obviousness with respect to Claim 6. Thus, the burden has not shifted to Applicants to rebut obviousness with respect to Claim 6.

Further with respect to Claim 12, Applicants further traverse such rejection by showing that none of the cited references teach or suggest the claimed feature of "sorting a plurality of

defective locations into zones; and performing steps a-d for each zone", nor has the Examiner alleged any such teaching or suggestion. Thus, the Examiner has failed to establish a prima facie showing of obviousness with respect to Claim 12. Rather, in rejecting Claim 12, the Examiner states that "zone recording is well known in the disk drive and official notice is taken thereof". Applicants show that whether or not zone recording is well known or not is not material or relevant to what is expressly recited in Claim 12. In particular, Claim 12 does not recite a step of zone recording. Rather, Claim 12 recites *sorting* of defective locations into zones. None of the cited references teach such a sorting step, nor has the Examiner alleging any teaching or suggestion of sorting. Therefore, as a prima facie case of obviousness has not been made, the burden has not shifted to Applicants to rebut obviousness with respect to Claim 12.

Therefore, the rejection of Claims 1-6 and 9-12 under 35 U.S.C. § 103 has been overcome.

Conclusion

Appellant maintains that present claims identify the features and benefits of the present invention clearly and concisely. The present invention as claimed is not disclosed, taught or suggested by the prior art of record or any combination thereof. Therefore, it is respectfully submitted that the appealed claims are in condition for allowance, and favorable action is respectfully requested.

Respectfully submitted,

Seagate Technology LLC
(Assignee of the Entire Interest)

5/10/04
Date

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Appendix of Appealed Claims

Appendix of Appealed Claims

1. (original) In a disc drive comprising at least one disc having a plurality of addressable sectors arranged in a plurality of tracks on a surface of the disc, the sectors being categorised into zones such that data is [capable of being] written to and read from different zones at different rates, a method of storing information on defective sectors comprising steps of:

- (a) sorting defective sectors by zone;
- (b) defining a cluster comprising at least one defective sector;
- (c) selecting one sector from the cluster to be a reference sector;
- (d) defining parameters with reference to the reference sector, the parameters describing the shape and size of the cluster;
- (e) storing the parameters with an address of the reference sector; and
- (f) performing the steps (b) to (e) separately for each zone.

2. (previously presented) A method of Claim 1 wherein the defining step (b) further comprises a step of including at least one non-defective sector in the cluster.

3. (original) A method of Claim 1 wherein the selecting step (c) includes selecting the sector with the smallest address to be the reference sector.

4. (original) A method of Claim 1 wherein the selecting step (c) includes selecting the sector with the largest address to be the reference sector.

5. (original) A method of Claim 1 wherein the defining step (d) further includes defining a scratch parameter characterizing the number of tracks covered by the cluster.

6. (original) A method of Claim 1 wherein the defining step (d) further includes defining a span parameter characterizing the number of sectors covered by the cluster along each track.

7. (previously presented) A method of Claim 1 wherein the defining step (d) further includes defining an angle parameter characterizing the angular deviation of a side of the cluster from a reference line intersecting the reference sector.

8. (previously presented) A method of Claim 7 further comprising defining a radial line to be the reference line.
9. (previously presented) A method comprising steps of:
 - (a) defining a cluster comprising at least one defective location;
 - (b) selecting one location from the cluster to be a reference location;
 - (c) defining parameters with reference to the reference location; and
 - (d) storing the parameters with an address of the reference location.
10. (previously presented) The method of claim 9 wherein the parameters are stored in a storage apparatus.
11. (previously presented) The method of claim 9 wherein the locations are sectors.
12. (previously presented) The method of claim 9 further comprising the steps of:
sorting a plurality of defective locations into zones; and
performing steps a-d for each zone.
13. (cancelled)